

# After Dinner Speech

*Mikhail Danilov*  
*Institute for Theoretical and Experimental Physics, ITEP*  
*danilov@itep.ru*

Dear friends, dear colleagues:

As the last speaker at the ARGUS Symposium I would like to thank DESY for the support. I also would like to thank all the people who worked hard to make this Symposium a success, in particular Frank Lehner and Sylvie Faverot-Spengler.

I was asked to analyze in my talk the reasons for the great ARGUS achievements. Collaborations are very similar to people. And their fates and successes depend on similar factors. It is well known that genes determine the future to a large extent. Therefore let us look at the ARGUS parents. ARGUS's mother is unknown. On the other hand many men claim that they are ARGUS's fathers. Some of them provide documents supporting this claim. Here you see a restaurant bill for the dinner at which ARGUS was conceived according to the claim by Walter Schmidt-Parzefall and Dietrich Wegener. A bottle of good wine was drunk to celebrate this event. Wine played a very important role in the ARGUS fate as we will see later. Therefore I consider this claim well justified. The bill can be considered as the ARGUS birth certificate. So genes were obviously good and it was possible already at that time to anticipate the great ARGUS future.

**The childhood period** is also extremely important for the fate. During childhood girls usually fall in love with their fathers. The ARGUS Collaboration was obviously female since it was so tiny, gentle, and smart. So the ARGUS Collaboration fell in love with her father, the first ARGUS spokesman Walter Schmidt-Parzefall. He deserved this love. He was young, handsome, clever and brave. Let me give you just one example of his boldness. Walter visited ITEP to discuss our contribution to ARGUS. At that time Russia was like another planet for people from the West. We proposed to change the JADE type drift chamber, which was the baseline at that time, to the ARGUS type drift chamber and to fill it with isobutane. Walter was bold enough to agree with this proposal from foreign planet people whom he even did not know. We were only recommended to him by Professor Schopper who happened to work for some time in Russia. The ARGUS performance demonstrated that this was not only bold but also a wise decision. Such a decision in a modern collaboration would require years of discussions, voting, endorsements, and so on. At ARGUS it could be made immediately and this was one of the reasons for the effectiveness of the collaboration.

It is important to learn foreign languages during childhood. The ARGUS native language was German. When I first came to DESY in 1979 I immediately went to a Collaboration meeting. It was in German. For 15 minutes I tried to learn German on spot but failed. So I asked to switch to English. After the meeting Richard Childers came to me and said:

“I am so glad that you came”.

I was surprised and he explained:

“I am already at DESY for half a year and did not understand a word during the collaboration meetings”.

Since that time English became more popular in the Collaboration. However the real ARGUS working language was a Kinematics Analysis Language (KAL). This language was written by Hartwig Albrecht and it played an extremely important role in the ARGUS data analysis. It was very simple and very efficient. It was possible to learn it in one day and to start the analysis.

The ability for social communication should be also developed during childhood. In ARGUS we developed a tradition of weekly ARGUS parties. They were excellent. I still remember the first ARGUS Russian party. I was impressed by the amount of vodka consumed by our not well trained western colleagues. When they returned home their families were impressed as well....

When childhood is over it becomes **time to fulfill your dreams**, i.e. to construct the detector. During the construction period the role of the spokesman is extremely important. Walter had his own strategic view on his task. According to him there are only two important tasks for the spokesman. The spokesman should not disturb good people when they are working and should defend them from bad people. Since there were no bad guys in ARGUS Walter concentrated on the first part of his task. He did it so perfectly that nobody had an illusion that something would be coordinated in ARGUS. Therefore each group took care itself that the part it built would fit with other parts of the detector. The success of this approach was tremendous. In half a year we assembled ARGUS without any problem. This was an excellent proof of a statement by the famous Russian anarchist Kropotkin:

“Anarchy is the mother of the order”.

Later on Walter and I derived a theory for the dependence of the collaboration efficiency on the organizational level. There are two obvious limits. With perfect organization the efficiency is zero. In Russia such a situation is called an Italian strike. When people fulfill all instructions everything stops to work. Another limit of zero organization has a reasonable efficiency as was demonstrated by the first ARGUS years. Since the behavior of the efficiency at intermediate values of the organizational level was unknown we tried to be close to the familiar point of zero organization. ARGUS had no constitution, no Collaboration Board, no elections. Instead of

Collaboration board meetings we had regular Collaboration parties and the result was excellent.

I'll not discuss **the period of maturity and glory**. It was already well covered in the talks today. I would like to remind you only that the  $B\bar{B}$  mixing paper is the most famous paper at DESY with more than 1000 citations. For quite some time it was among 10 most cited experimental papers in particle physics. Twenty ARGUS papers have been cited more than 100 times. Taking into account the small size of the collaboration this is really a remarkable achievement. Initially we had a better detector than our competitors from CLEO. It was even possible to quantify the difference.

Once I gave an internal ARGUS seminar with a title "Is ARGUS 5 times better than CLEO?". At the beginning of the seminar I asked Walter and Dietrich to guess the answer. Dietrich said "Yes", Walter said "No". They were both right. ARGUS was 7 times better than CLEO. We reconstructed 7 times more B decays into  $J/\psi$  than CLEO. However the biggest ARGUS advantage was excellent people. We continued to compete efficiently with CLEO even when they upgraded their detector and collected an order of magnitude more luminosity.

I must say that many ARGUS discoveries look so natural today that that they even do not look like discoveries. Some theorists even claim that they predicted them. Anticipating such a development I had asked one well known theorist to write a clear statement and to sign it. He wrote: "ARGUS will never observe  $B\bar{B}$  mixing" and signed. Three months later we announced the discovery of  $B\bar{B}$  mixing. After that theorists refuse to sign clear statements for me.

ARGUS is famous not only among physicists. Taking into account great scientific achievements and amount of consumed alcohol, our Azerbaijanian friends decided to name their best cognac after ARGUS. You can see here this bottle. I would like to present this bottle to Walter.

Unfortunately **the retirement age** comes inevitably at some time. It came to ARGUS as well. However there are pleasant moments during this period as well. It is still possible to recall the past discoveries and to have parties to celebrate them. It is also pleasant to witness the successes of ARGUS children and grandchildren. David MacFarlane was the spokesman of BaBar and Andrey Golutvin has been just elected to be the spokesman of LHCb. So we can say that ARGUS is still dominating the field of beauty and charm physics.

I propose to raise the glasses for future ARGUS successes. I tried to show that the good atmosphere and the good human relations were the main ARGUS achievements. This was the basis of all other achievements. I raise my glass for friendship, for ARGUS, for future!